



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,890	10/14/2003	Theodore A. Wegert	SHT-PT005.1	5922
3624	7590	12/02/2005	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			KOSLOW, CAROL M	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/685,890

Applicant(s)

WEGERT ET AL.

Examiner

C. Melissa Koslow

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

Art Unit: 1755

The disclosure is objected to because of the following informalities:

The specification teaches the thermoluminescent pigment is chlorophane-based. It is unclear what is the composition of pigment since it is unclear as to the amount of chlorophane, which is manganese doped calcium fluorite, present in the pigment. The specification teaches the pigment is both thermoluminescent and thermochromic or both photoluminescent and photochromic. The Examiner is unaware of any pigments having both of these properties. Applicants need to provide examples of thermoluminescent/thermochromic pigments and photoluminescent/photochromic pigments. The specification teaches the photoluminescent pigment is silicon aluminate-based, but the examiner is unaware of any silicon aluminate-based photoluminescent pigments. Applicants need to give examples of these pigments. Appropriate correction is required.

Claims 6 and 10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim 6 teaches the sealant material is “substantially clear” while paragraph [0018] teaches the sealant material is clear. This discrepancy needs to be corrected. Claim 10 teaches the photoluminescent pigment contains strontium and silicon aluminate, i.e. strontium-based and silicon aluminate-based. Paragraph [0019] teaches the photoluminescent pigment can be mixture of a strontium-based pigment and a silicon aluminate-based pigment. This discrepancy needs to be corrected.

Art Unit: 1755

Claims 5, 9, 10 and 12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 5 and 27 teach the pigment is both thermoluminescent and thermochromic. Claim 12 teaches the pigment is both photoluminescent and photochromic. The Examiner is unaware of any pigments having both of these properties, thus raising the question if these claims are enabled. Applicants need to provide examples of thermoluminescent/thermochromic pigments and photoluminescent/photochromic pigments for these claims to be enabled. Claim 9 teaches the photoluminescent pigment is silicon aluminate-based, but the examiner is unaware of any silicon aluminate-based photoluminescent pigments. Claim 10 teaches the photoluminescent pigment is strontium-based and silicon aluminate-based, but the examiner is unaware of any strontium-based and silicon aluminate-based photoluminescent pigments. The Examiner is unaware of any photoluminescent pigments having the claimed compositions, thus raising the question if these claims are enabled. Applicants need to provide examples of photoluminescent pigments having the claimed compositions for these claims to be enabled.

Claims 16, 17 and 25-27 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Subject matter that is critical or essential to the practice of the invention, but not included in the claims means the claims are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

A thermoluminescent pigment is one which exhibits luminescence when heated after it has been exposed to ionization radiation which is the range of the visible wavelength range and

Art Unit: 1755

higher. This means simply heating the pigments will not produce luminescence as claimed in claims 16 and 17. In addition, the appliance of claims 25-27 will not exhibit thermoluminescence unless the sealant in a location where it will be exposed to radiation having a wavelength in the range of the visible wavelength range and higher.

Claims 4, 16-18 and 25-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is indefinite since it is unclear as to the amount of chlorophane, which is manganese doped calcium fluorite, present in the pigment. Claim 18 is indefinite since the preamble does not correspond with the process of the body of the claim. The process in the body of the claim is the process of determining if the amount of sealant meets the desired requirements. The preamble teaches the process is a general inspection method of an article having a sealant applied thereto. It is suggested to rewrite the preamble to correspond to the process of the body of the claim. Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is: the step of exposing the sealant to a source of ionization radiation before the application of heat. Claims 25-27 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential aspect of the elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted aspect of the elements is: that the sealant must be in a location where it can be exposed to the ionization radiation as well in proximity to a heating area.

Art Unit: 1755

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6-8, 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by WO 01/42386 or U.S. patent 6,071,432.

Both of these references teach photoluminescent sealants or adhesives comprising a UV reactive strontium-based photoluminescent pigments mixed with a substantially clear sealant or adhesive. The composition is produced by mixing the sealant or adhesive material with the photoluminescent pigment. The references clearly teach the claimed luminescent sealant and method.

Claims 1, 6, 7, 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 5,270,116.

Both of these references teach photoluminescent sealants or adhesives comprising a UV reactive photoluminescent pigments mixed with a substantially clear sealant or adhesive. The composition is produced by mixing the sealant or adhesive material with the photoluminescent pigment. The reference clearly teaches the claimed luminescent sealant and method.

Claims 1, 2, 6-8, 11, 13, 14, 23 and 24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 4,910,406.

This reference teaches a contaminate detector, such is an appliance, comprising a layer of RTV silicone, which is a clear sealant material, containing an UV reactive photoluminescent pigment (example 1), such as a strontium-based ones (col. 5, lines 45-60). The photoluminescent

Art Unit: 1755

layer is produced by the mixing the silicone with the pigment. The reference clearly teaches the claimed luminescent sealant, method and appliance.

Claims 1, 3, 4, 6, 13, 15, 23 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 4,825,084.

This reference teaches a thermoluminescent radiation detector, which is an appliance, comprising a glass adhesive or sealant containing a thermoluminescent pigment (col. 5, line 67- col. 6, line 60). The composition is produced by mixing the glass adhesive or sealant and the pigment. The glass adhesive is clear and the pigment can be $\text{CaF}_2\text{:Mn,Dy}$, which means it is chlorophane-based ($\text{CaF}_2\text{:Mn}$ -based). The reference clearly teaches the claimed luminescent sealant, method and appliance.

Claims 1, 7, 8, 11, 13, 14, 23 and 24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 6,528,186.

This reference teaches a household appliance (col. 5, lines 1-6) that can contain a laminar body having a layer of UV reactive strontium aluminate photoluminescent pigment in an enamel sealant. The layer is produced by mixing the enamel frit and the pigment. The reference clearly teaches the claimed luminescent sealant, method and appliance.

Claims 1, 6, 7, 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 4,525,295.

This reference teaches a glow ink composition containing photoluminescent pigments in a plastisol matrix. Plastisol is a known clear sealant/adhesive material. The composition is produced by mixing the pigment and plastisol. Glow ink is known in the art to be an ink that

Art Unit: 1755

glows in the dark and it is known that glow in the dark photoluminescent pigments are UV reactive. The reference clearly teaches the claimed sealant and method.

Claims 1, 3, 6, 23 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by GB 2,064,930.

This reference teaches a thermoluminescent radiation detector, which is an appliance, comprising an adhesive containing a thermoluminescent pigment. The adhesive can be a silicone adhesive, which means it is clear. The reference clearly teaches the claimed composition and appliance.

Claims 1, 3, 4, 6, 13, 15, 23 and 25-27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 3,115,578.

This reference teaches a thermoluminescent radiation detector, which is an appliance, comprising coating of an adhesive containing a thermoluminescent pigment applied to a heating element. The adhesive can be a silicone adhesive, which means it is clear and the thermoluminescent pigment can be $\text{CaF}_2\text{:Mn}$, which is chlorophane. The coating is produced by mixing the adhesive and the pigment. The reference teaches the coating emits a color different from the color of the coating when the coating is heated. The reference clearly teaches the claimed composition, method and appliance.

Claims 1, 6, 7, 11, 13, 14, 18, 21 and 22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 2,631,243.

This reference teaches a seam paste, which is a clear adhesive, comprising UV reactive photoluminescent pigments (inorganic phosphors). The paste is formed by mixing the adhesive and the pigment. The pigment is added to the paste so that it can be determined if a sufficient

Art Unit: 1755

amount of paste has been applied. The inspection method comprises applying the paste in accordance with the predetermined requirements, exposing the paste to a source of UV radiation, subduing the light so that the luminescence can be more obviously observed, and reapplying the paste to the areas observed as missing the paste. The reference clearly teaches claimed sealant and methods.

Claims 1, 3, 6, 13, 15, 23 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 2,616,051.

This reference teaches a thermoluminescent radiation detector, which is an appliance, comprising an adhesive containing a thermoluminescent pigment (col. 5, lines 42-68). The adhesive can be a waterglass, which means it is clear. The adhesive composition is produced by mixing the adhesive with the pigment. The reference clearly teaches the claimed composition and appliance.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 18, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,270,116.

This reference teaches a method of monitoring a functional coating comprising applying a coating containing a UV reactive photoluminescent pigment in accordance with a predetermined requirement, exposing the coating to UV radiation and observing the resulting luminescence. The reference teaches the coatings can be monitored for thickness, uniformity

Art Unit: 1755

and/or defects (col. 2, lines 39-41). This suggests to one of ordinary skill in the art that if the coating does not meet the predetermined requirements for thickness, uniformity and/or defects, additional coating should be added or any excess should be removed. Thus the process of claims 18 and 22 is suggested by the reference. Column 3, lines 2-3 teach the coating can be any adhesive silicone coating. Thus one of ordinary skill in the art would have found it obvious to use this method in monitoring RTV silicone adhesive coatings. Thus the composition of claim 2 and the method of claim 19 are suggested by the reference.

Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patents 2,631,243 and 5,270,166, each in view of U.S. patents 4,910,406 and 6,528,186.

As discussed above, U.S. patents 2,631,243 and 5,270,166 teach and suggest the composition of claim 7 and the method of claim 18. These patents do not teach the photoluminescent pigment can be strontium-based, but they do teach the use of any known UV reactive photoluminescent pigment. U.S. patents 4,910,406 and 6,528,186 teach strontium-based UV reactive photoluminescent pigments. One of ordinary skill in the art would have found it obvious to use any of the strontium-based UV reactive photoluminescent pigments taught in U.S. patents 4,910,406 and 6,528,186 as the UV reactive photoluminescent pigments in the compositions and methods of U.S. patents 2,631,243 and 5,270,166. The references suggest the claimed composition and method.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 4,525,295 in view of U.S. patents 4,910,406 and 6,528,186.

As discussed above, U.S. patent 4,525,295 teaches the composition of claim 7. This patent does not teach the photoluminescent pigment can be strontium-based, but it does teach the

Art Unit: 1755

use of any known UV reactive photoluminescent pigment. U.S. patents 4,910,406 and 6,528,186 teach strontium-based UV reactive photoluminescent pigments. One of ordinary skill in the art would have found it obvious to use any of the strontium-based UV reactive photoluminescent pigments taught in U.S. patents 4,910,406 and 6,528,186 as the UV reactive photoluminescent pigments in the composition of U.S. patent 4,525,295. The references suggest the claimed composition and method.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 2,616,051 or GB 2,064,930.

As stated above, these references teach the composition of claim 3. They do not teach the thermoluminescent pigment is chlorophane-based, but they do teach using any known thermoluminescent pigment. One of ordinary skill in the art would have found it obvious to use chlorophane as the taught pigment since it is a notoriously well known thermoluminescent pigment. The references suggest the claimed composition.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 2,616,051, U.S. patent 3,115,578 or GB 2,064,930.

As discussed above, these references teach the composition of claim 1. They do not teach the adhesive is RTV silicone, but they teach the adhesive should be a heat stable transparent plastic adhesive, such as any heat-stable silicone adhesive. RTV silicones are known heat stable adhesives. Therefore, one of ordinary skill in the art would have found it obvious to use a RTV silicone adhesive, as the heat stable adhesive in the references. The references suggest the claimed composition.

Art Unit: 1755


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
November 28, 2005


C. Melissa Koslow
Primary Examiner
Tech. Center 1700